

OLYMPIA J. SNOWE
MAINE

154 RUSSELL SENATE OFFICE BUILDING
(202) 224-5344

Web Site: <http://snowe.senate.gov>

DEPUTY WHIP

United States Senate

WASHINGTON, DC 20510-1903

COMMITTEES:
COMMERCE, SCIENCE, AND
TRANSPORTATION

FISHERIES AND COAST GUARD
SUBCOMMITTEE

FINANCE

INTELLIGENCE

RANKING MEMBER, SMALL BUSINESS

August 23, 2010

The Honorable Julius Genachowski
Chairman
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

1379

Dear Chairman Genachowski:

As the Federal Communications Commission deals with a number of issues from network neutrality to spectrum policy, I wanted to write you about a critical component necessary to properly address these matters—adequate technical resources. While the Office of Engineering and Technology (OET) has been and will continue to be a valuable resource, there has been increased concern voiced by the technical community and even Commissioners themselves about the loss of engineering expertise at the Commission. It's for good reason, in 1948, the FCC had approximately 720 engineers on staff; today, it has fewer than 300—**an astonishing 62% reduction**—even though the FCC now must face more technical issues concerning the Internet, advanced wireless communications, cyber security, commercial cable & satellite industries, and broadband.

Engineers once accounted for more than 50 percent of the FCC workforce but now only constitute a dismally low 14 percent. Making matters worse, FCC officials have recently acknowledged a shortage of network engineers and that a large number of experienced engineers—close to 50 percent—will be eligible to retire within the next few years.

A December 2009 report by the Government Accountability Office¹ reaffirms these concerns and provides additional evidence of the looming problem. The GAO concluded that “weaknesses in FCC’s processes for collecting and using information also raise concerns regarding the transparency and informed nature of FCC’s decision-making process.” Furthermore, the report found the “FCC faces challenges in ensuring it has the expertise needed to adapt to a changing market place.”

This presents a significant challenge given that the Commission is in the midst of implementing the National Broadband Plan while at the same time handling its existing workload. Many of the Plan’s proposals are very technical in nature—such as establishing technical broadband and spectrum measurements and facilitating spectrum research & development to increase spectral efficiency and usage. Without sufficient technical assets, it will be very difficult for the Commission to successfully execute the Plan and achieve its ultimate goal of making high-speed, affordable broadband available to all Americans. The lack of technical resources also hinders the ability of the Commission to implement more effective spectrum policy and management to meet the future spectrum needs of all users.

Due to the concern I share with the technical community about the current state of the FCC’s technical resources, I wish to inquire about your plans to increase technical resources at the FCC so it will

¹ *FCC Management: Improvements Needed in Communication, Decision-Making Processes, and Workforce Planning* (GAO-10-79), December 17, 2009

AUBURN
TWO GREAT FALLS PLAZA
SUITE 7B
AUBURN, ME 04210
(207) 786-2451

AUGUSTA
40 WESTERN AVENUE, SUITE 408C
AUGUSTA, ME 04330
(207) 622-8292

BANGOR
ONE CUMBERLAND PLACE, SUITE 306
BANGOR, ME 04401
(207) 945-0432

BIDDEFORD
227 MAIN STREET
BIDDEFORD, ME 04005
(207) 282-4144

PORTLAND
3 CANAL PLAZA, SUITE 601
PORTLAND, ME 04101
(207) 874-0883
MAINE RELAY SERVICE
TDD 1-955-3323

PRESQUE ISLE
169 ACADEMY STREET, SUITE 3
PRESQUE ISLE, ME 04769
(207) 764-5124

be better equipped to address the dynamic and increasingly technical landscape of the telecommunications industry as well as the many issues under its jurisdiction. Specifically, I would like to know what your staffing plans are to hire the necessary number of qualified engineers to adequately support the FCC's mission, how the Commission will change hiring practices to have greater visibility on college campuses and be more competitive with industry, and what improvements you plan to make to the Excellence in Engineering program to retain and train FCC engineers. Lastly, I would be interested in knowing the average number of engineering cooperative students or interns compared to the number of legal interns the Commission has annually.

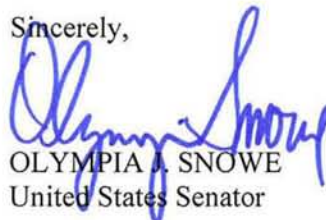
I believe it is very telling that one of the top public recommendations on the FCC's reform website, reboot.fcc.gov, is to "require at least one FCC Commissioner to be an engineer."² Even the general public clearly realizes the significant technical deficiency that exists at the Commission and the critical need to increase the FCC's technical aptitude.

Comparing the FCC to similar regulatory agencies illustrates some significant differences. For example, every Commissioner at the Nuclear Regulatory Commission is either a physicist or an engineer, and each Commissioner's staff is comprised of both legal and technical assistants. However, each FCC Commissioner's staff is almost solely comprised of legal advisors—not one FCC Commissioner has a technical advisor or assistant on staff. This seems odd given that none of the Commissioners has an engineering or in-depth technical background.

Ensuring the Commission has ample technical resources and proper decision-making processes in place is paramount to the FCC making sound regulatory decisions and being a more effective agency. This is absolutely vital given how rapidly technologies are changing and the implications that regulation could have on the underlying technical catalysts of innovation. It is also essential to overall reform at the Commission because in order to properly regulate communications, the FCC must be deeply knowledgeable of both the legal and technical aspects of the issues before it.

As you know, I have introduced legislation, the *FCC Commissioners' Technical Resource Enhancement Act* (S.2881), to bolster the Commission's technical resources. S.2881 has received significant support from various technical membership organizations and several prominent individuals in the field. I believe this bill could complement your internal efforts so I look forward to receiving your timely response to my inquiry.

Sincerely,



OLYMPIA J. SNOWE
United States Senator

cc: Commissioner Michael J. Copps
Commissioner Robert M. McDowell
Commissioner Mignon Clyburn
Commissioner Meredith Attwell Baker
Mr. Julius Knapp
Dr. Douglas Sicker

² <http://rebootfcc.uservoice.com/forums/37115-rules-processes-how-could-the-fcc-become-more-e/suggestions/439680-require-at-least-one-fcc-commissioner-to-be-an-eng?ref=title>



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON

OFFICE OF
THE CHAIRMAN

October 21, 2010

The Honorable Olympia J. Snowe
United States Senate
154 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Snowe:

Thank you for your letter regarding the Commission's technical and engineering resources.

The Commission's immediate human capital needs include economists, econometricians, engineers, technologists and others with experience and knowledge to support the complex and unprecedented data-driven and fact-based mission the Commission must accomplish over the coming months and years. Attracting and maintaining engineering and technical expertise are important operational issues for the success of the FCC's mission.

The Commission shares your concerns and interest in ensuring that it has the necessary resources to handle the wide array of complex issues before it. While the number of engineers at the agency has remained relatively constant over the past five years – 268 in 2006 and 269 today – part of my reform agenda has been to make the Commission a model of excellence in government, and includes increasing our engineering and technical expertise.

To this end, the Commission recently sought and received approval from Congress to use unused funds from previous fiscal years to accelerate the hiring of new staff with critical expertise to support implementation of the National Broadband Plan. Additionally, the Commission sought and received approval from the Office of Personnel Management to use Voluntary Early Retirement Authority (VERA) to reshape the Commission to meet critical hiring needs. Since receiving these approvals, the agency has begun recruiting almost a dozen new engineers and expects that there will be additional opportunities gained to make new hires as a result of employees volunteering for the benefit of early retirement. Through this action, the Commission then can continue to replenish its work force with additional new skills that will help meet the immediate and future needs of the FCC.

The Commission employs a broad range of recruiting methods to attract technical talent, including periodic participation in recruiting events organized by the Office of Personnel Management on college campuses. As part of its program to recruit and retain engineers, the Commission also offers many training and career development opportunities. The Commission reimburses engineers for graduate level courses taken at accredited universities to obtain Masters Degrees in engineering disciplines, and it partners with George Washington University's Engineering department to provide in-house Master's level courses to its engineers. While the in-

house courses are held at the FCC's headquarters in Washington, DC, engineers at the FCC's field office locations can participate via video conference. The Commission also offers a wide range of in-house training on engineering topics so staff can stay informed on cutting edge issues, such as emerging wireless and spectrum management technologies. These career development opportunities have evolved over time and have assisted the Commission in attracting and retaining talented engineers over the past several years.

In your letter, you also requested information about the average number of engineering cooperative students or interns compared to the number of legal interns the Commission has annually. While the Commission engages a range of unpaid and a small number of paid undergraduate, graduate, and legal interns, the intern program does not lead to permanent employment. Instead, the Commission relies predominately on its Engineers in Training (EIT) Program to recruit entry-level engineers. This program provides training and career development for entry-level engineers. During the past four fiscal years, the FCC has hired 63 engineers, 46 of whom were hired through the EIT Program. In contrast, the FCC's Honors Attorney Program hired 13 entry-level attorneys during the same time frame.

Thank you again for your continued interest in these issues and for your support of the Commission's efforts to build for the future. I hope this response answers your questions and addresses any concerns you may have about the Commission's plans for the future of its technical work force. Please let me know if you have any further questions or would like to discuss these issues further.

Sincerely,

A handwritten signature in dark ink, appearing to read 'J. Genachowski', with a stylized flourish at the end.

Julius Genachowski